DII COE Compliance Evaluation of Air Force Mission Applications

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Purpose

To provide information on the procedures and tools used by the Air Force Certification and Test Facility (AFCTF) in the DII COE compliance evaluation of Air Force NT-based mission applications

Outline

- Goal
- Background
- Evaluation Outline
- Tools
- Output
- Status
- Issues
- Future
- Summary

Goal

Create a standard set of procedures that

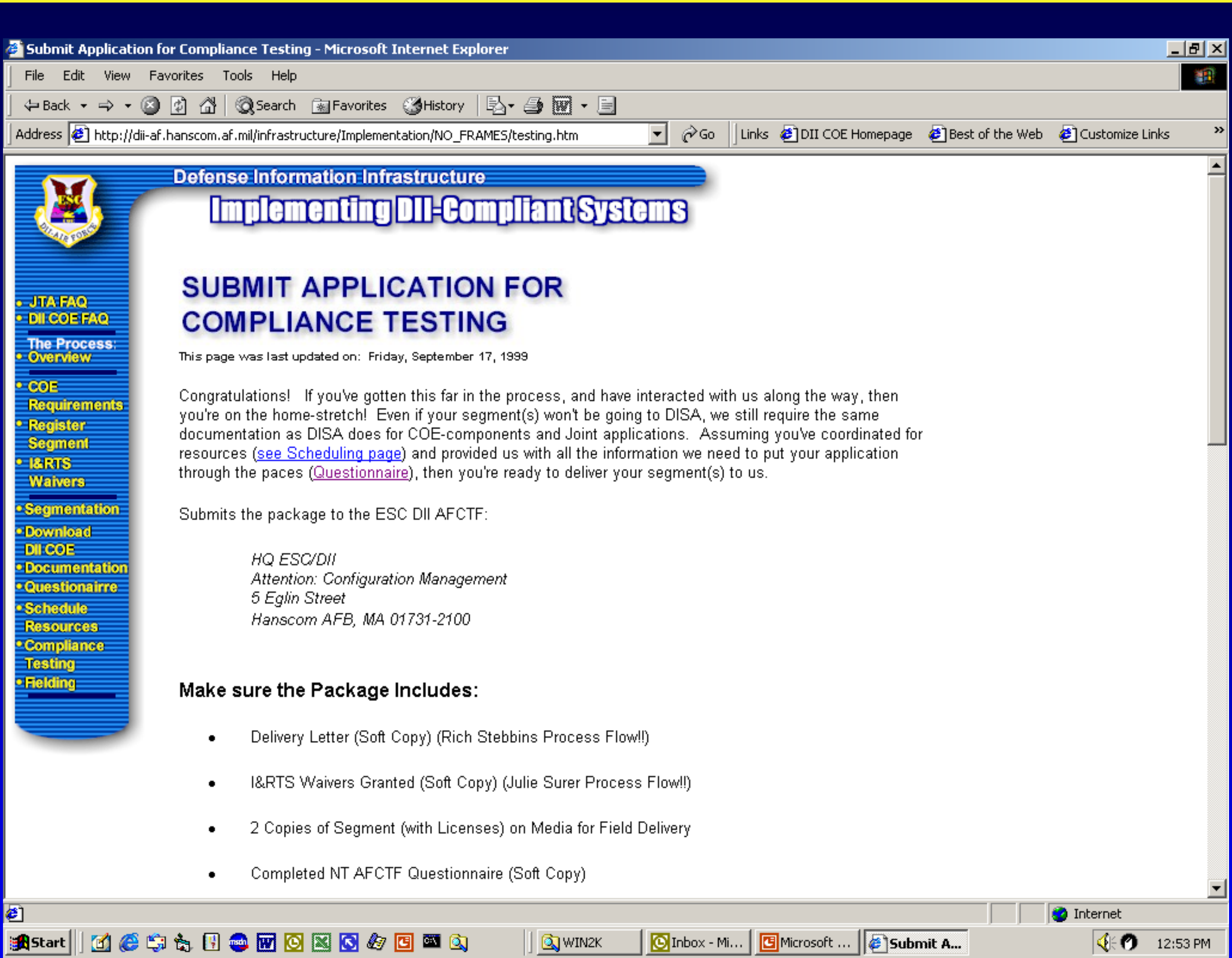
- provides consistency,
- are impartial,
- repeatable, and
- releasable to contractors

Background

- Air Force Certification and Test Facility (AFCTF) evaluates GCCS-AF segments and segments procured by Program Offices on Hanscom AFB
- COE incorporates Windows NT Logo compliance
- Procedures required to measure compliance with DII COE I&RTS (Appendix B) & Logo
- Air Force COE segment development and compliance process defined on web site:

  http://dii-af.hanscom.af .mil/infrastructure/Implementation/default. htm

Process



Submit Application for Compliance Testing - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites History
Address http://dii-af.hanscom.af.mil/infrastructure/Implementation/NO_FRAMES/testing.htm
Go Links DII COE Homepage Best of the Web Customize Links
Internet
Start WIN2K Inbox - Mi... Microsoft ... Submit A... 12:53 PM

Defense Information Infrastructure

Implementing DII-Compliant Systems

- JTA FAQ
- DII COE FAQ

The Process:
- Overview
- COE Requirements
- Register Segment
- I&RTS Waivers
- Segmentation
- Download DII COE Documentation
- Questionairre
- Schedule Resources
- Compliance Testing
- Fielding

SUBMIT APPLICATION FOR COMPLIANCE TESTING

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Congratulations! If you've gotten this far in the process, and have interacted with us along the way, then you're on the home-stretch! Even if your segment(s) won't be going to DISA, we still require the same documentation as DISA does for COE-components and Joint applications. Assuming you've coordinated for resources (see Scheduling page) and provided us with all the information we need to put your application through the paces (Questionnaire), then you're ready to deliver your segment(s) to us.

Submits the package to the ESC DII AFCTF:

HQ ESC/DII
Attention: Configuration Management
5 Eglin Street
Hanscom AFB, MA 01731-2100

Make sure the Package Includes:

- Delivery Letter (Soft Copy) (Rich Stebbins Process Flow!!)
- I&RTS Waivers Granted (Soft Copy) (Julie Surer Process Flow!!)
- 2 Copies of Segment (with Licenses) on Media for Field Delivery
- Completed NT AFCTF Questionnaire (Soft Copy)

Process (con’t)

- Evaluate Segment Delivery for Completeness
- Review I&RTS Appendix B and Analyze.exe results
- Spot-check Analyze.exe results
- Follow Installation Procedures to install/uninstall segment
- Exercise application IAW User’s and Administrator's Manuals
- Load and check other segments that will co-exist with segment under Compliance Checking
- Assign Compliance Level
- Determine areas that need to be addressed in the next version of the segment
- Prepare and deliver Report to submitting Agency (Soft Copy)
- If system/segment is qualified, prepare and deliver Certification Memo to Submitting Agency (Hard Copy)

Background (con’t)

- AFCTF mission:
  - Evaluate COE and Logo Program compliance
  - Assist SPOs at any point during development cycle
  - Assist developers at any point during development cycle

Evaluation Outline

- Start with pristine system (30 seconds to build)
  - Windows NT 4.0
  - Current Service Pack
  - COE kernel (3.0, 3.1, 3.2, 3.3, 3.4, or 4.1)
  - Baseline applications
  - GCCS-AF Security configuration
- Follow AFCTF Segment – COE Compliance Evaluation worksheet
- Complete Evaluation Report

COE Evaluation form (Sample)

Step #	I&RTS Ref.	TRUE	FALSE	N/A	Step Description and Comments
34	Level 6-35 **[5.10.8, p. 5-159]**				**[All Segments]** If the segment creates temporary files, they are deleted when no longer needed. 1. Open file c:\Seg_Eval\<APPLICATION NAME>\<SEGMENT PREFIX>\AFTRLOAD\EvalData\Hd_delt.txt 2. From the Notepad application window upper left pull-down menus, select Search-Find… 3. Type “Temp” and begin search. Hit F3 key to perform follow-on searches. If there are any files found located in the C:\Temp directory after installation, segment fails step. **Note: Segments will normally create temp files under the directory */temp*. These are intended for use by the segment and/or the user reference -- such as .log, .lst, .lis, .rpt files -- that are there to provide information to the user. These must be deleted when the segment is de-installed (as a minimum) and, unless they are intentionally left by the segment for use by the user, should be deleted when the segment software is finished with them. The User=s Manual may provide information about files left in /temp for the user -- otherwise a subjective look at these files must be done to determine if they are needed/usable (*if not then they should be deleted by the software and not left in /temp*).**

Tools

Tools used to collect and analyze information:

- **Analyze.exe**, provided by Microsoft for Logo Handbook compliance (free)
- **FC.exe**, file comparison for environment variable changes (free)
- **SysDiff.exe**, takes snapshot of hard drive before and after segment is installed and uninstalled. Compare snapshots to determine changes made to platform by segment (license required)
- **AddUsers.exe**, captures User and Group account information (license required)
- **Perms.exe**, captures file and directory permissions (license required)

Analyzer Report (Sample)

```
AIMNT
Monday, October 18, 1999
______________________________________________________________
______________________________________________________________
         Total New Files = 51
         Total number of new 32 bit files = 11
         Total number of new 16 bit files = 0
         Total byte count of new PE_Win32 files = 587,776
         Total byte count of new PE_Console files = 993,948
         Total byte count of new 32 bit files = 1,581,724
         Total byte count of new 16 bit files = 0

______________________________________________________________
                  32 Bit Files

______________________________________________________________

[PE_Console] Intel            942,748 c:\program files\gccs_af\aimnt\bin\aimnt.exe


 [PE_Win32] Intel              16,384 c:\program files\gccs_af\aimnt\bin\dumper.dll



Total of 32 bit files = 1,581,724
______________________________________________________________
                  16 Bit Files
______________________________________________________________

Total of 16 bit files = 0
______________________________________________________________
               Files that have changed
______________________________________________________________

10/18/99 01:03:56 PM             303 c:\h\acctgrps\sysadm\segdescrip\cpp\releasenotes


10/18/99 03:47:19 PM             272 c:\h\cots\winnt\segdescrip\cpp\version


10/15/99 02:52:31 PM             114 c:\seg_eval\aimnt\aimnt\aftrload\aftrloadpath.txt


10/18/99 03:49:31 PM             114 c:\seg_eval\aimnt\aimnt\aftrload\aftrloadpath.txt
```

SysDiff.exe (Sample)

```
; Dump of sysdiff package
c:\Seg_Eval\AIMNT\AIMNT\AFTRLOAD\SNAPDELT
; File created with sysdiff version 40006
; Sysroot: C:\WINNT
; Usrroot: C:\WINNT\Profiles\Administrator
; Usrroot: C:\WINNT\Profiles\ADMINI~1
; TotalDiffCount: 21
C:\h\AcctGrps\SysAdm\SegDescrip\cpp
        SFN: C:\h\AcctGrps\SysAdm\SEGDES~1\cpp
        Add/change ReleaseNotes (SFN: RELEAS~1)
        Add/change SegInfo
        Add/change SegName

HKLM\SOFTWARE\GCCS_AF\AIMNT\1.0.0.0
HKLM\SOFTWARE\GCCS_AF\AIMNT\CONFIG
   ftp_dir: REG_SZ/REG_EXPAND_SZ sites
   ftp_pwd: REG_SZ/REG_EXPAND_SZ segman@osf.disa.smil.mil
   ftp_target: REG_SZ/REG_EXPAND_SZ 199.114.100.117
   ftp_user: REG_SZ/REG_EXPAND_SZ anonymous
   last_ran: REG_SZ/REG_EXPAND_SZ 940276106
   schedule_day: REG_SZ/REG_EXPAND_SZ 2
```

FC.exe (Sample)

- Path IDENTIFIED DIFFERENCES

```
Comparing files
C:\SEG_EVAL\AIMNT\BASELINE\basepath.txt
and
C:\SEG_EVAL\AIMNT\AIMNT\AFTRLOAD\AFTRLOADPATH.TXT

FC: no differences encountered
```

- CONFIG.NT IDENTIFIED DIFFERENCES

```
Comparing files
C:\SEG_EVAL\AIMNT\BASELINE\config.nt and
C:\SEG_EVAL\AIMNT\AIMNT\AFTRLOAD\CONFIG.NT

FC: no differences encountered
```

Output

- Information Collected
  - **aebtdelt.txt**, autoexec.bat file changes
  - **aentdelt.txt**, autoexec.nt file changes
  - **cfntdelt.txt**, config.nt file changes
  - **cfsydelt.txt**, config.sys file changes
  - **pathdelt.txt**, PATH variable changes
  - **ENVI_delt.txt**, system environment variable changes
  - **SERVICES.txt**, service (daemon) changes
  - **Obsolete.txt**, obsolete directory names and descriptors used
  - **permissions.txt**, illegal directory and file permissions
  - **USER_GRP_delt.txt**, User and Group account changes
  - **hosts_delt.txt**, IP host changes
  - **start_menu.txt**, menu icon changes
- Screen Shots of evaluator input and identified problems

Output (con’t)

- Analyzer output
  - **c-finalrpt1.doc**, C: drive file and directory information
  - **c-report1.doc**, registry and system information
- Sysdiff output
  - HD_DELT.TXT, all changes made to platform
- Compliance Evaluation Form
- Segment Evaluation Report

Status

- Segment Evaluation Report Template (100%)
- Compliance Evaluation Form (100%)
- Web site update (50%)
- Verification of tools and procedures (100%)

Issues

- DISA ACAT, (ChkCompliance) automated compliance evaluation tool
- Logo evaluation
  - 36 items total
  - 27 testable
  - 9 need tests developed
- Require commercial Logo verification
- Security lockdown and unlock utilities
- Position paper on Windows 95/98
- Windows 2000 Certification Program
- Rational Certification test Suite
  - http://www.rational.com/products/teamtest/w2k/index.jtmpl

Future

- Auto selection of compliance items for evaluation based on COE level and segment type
- Automated tools complete evaluation and auto fill compliance form
- Metrics to allow
  - Statistical analysis of compliance items
  - Tracking of compliance items by developer
  - Schedule segments based on previous time required
- Database to store results

Summary

- Windows NT COE segments must be COE and Logo Program compliant
- AFCTF Lab services include:
  - Compliance evaluation
  - Program management support
  - Developer support